rupted for several days after the 17th. Reports from Los Angeles, via Deming and Ogden, on the 20th, stated that a dam on the Los Angeles river broke during the night of the 17–18th, producing the most disastrous flood ever experienced. The lower part of the city was completely inundated and forty buildings were swept away. Hundreds of families were obliged to abandon their homes and seek shelter on the hills. From Los Angeles to Mojave, a distance of one hundred miles, scarcely a mile of the Southern Pacific railroad track remained in place, and from Los Angeles eastward to San Gorgonio the destruction was equally great. The California Southern railroad, from Colton to San Diego, was also washed out. Reports from towns in the southern part of San Joaquin valley stated that the floods in that section were the heaviest ever experienced.

Reports from San Bernardino, on the 21st, stated that the streets were covered with water to a depth of three feet, and that the houses were flooded. The town of Fall Brook was reported to have been entirely washed away. Many of the inhabitants were missing and were supposed to have been drowned. Numerous orange groves and vineyards in the San Gabriel valley were completely destroyed.

Los Angeles, California: careful estimates of the losses caused by the floods in this county place them at $750,000, which will be more than compensated by the benefits done to the wheat and fruit crops.

San Buena Ventura, Ventura county, California: on the 5th the Santa Clara river was higher than it had been known to be for years. Several bridges were washed away and, in some places land slides occurred on the railroads. During the storm preceding the freshet 9.60 inches of rain fell.

Santa Anna, Los Angeles county, California: the rains preceding the 5th were the heaviest that have occurred for several years. For the first time in eight years the water in the Santa Anna river ran into the ocean. All of the small streams in that vicinity were much swollen.

Yuma, Arizona: the railroad tracks west of this place were badly washed by the heavy rains of the 3d, causing delay of trains for two days.

HIGH TIDES.

New York City.—The highest tide that has been known for several years occurred on the 28th. When at its maximum height, at about 9.30 a. m., the railroad tracks at the Erie depot in Jersey City were covered with several inches of water. The cellars along the river front, and particularly those on South street, were flooded.

High tides also occurred as follows:

New River Inlet, North Carolina, 7th, 14th, 17th, 28th.

Cape May, New Jersey, 27th.

Cedar Keys, Florida, 27th.

Narragansett Pier, Rhode Island, 26th, 27th.

LOW TIDES.

New York City.—The strong southwesterly winds of the 29th (low area xiv.) caused the lowest tide that has occurred for several years. Many of the larger vessels along East river front were resting on the bottom of the river. Split rock, off Tompkinsville, which is only seen about once in seven years, was two feet out of water. West Bank, near Swinburne Island, was nearly dry and miles of the beach along the south shore and Great Kills were entirely dry. Much inconvenience was experienced by the ferry boats.

Block Island, Rhode Island. — The strong northwesterly gales of the 29th (low area xiv.), caused very low tides.

Low tides were also reported from the following places:

Narragansett Pier, Rhode Island, 29th.

Point Judith, Rhode Island, 29th.

New Haven, Connecticut, 29th.

Cedar Keys, Florida, 20th.

TEMPERATURE OF WATER.

The temperature of water, as observed in rivers and harbors during February, 1884, with the average depth at which the observations were made and the mean temperature of the air at the various stations, are given in the table below. The highest water temperatures reported during the month, 74°.8 and 77°.6, were observed at Cedar Keys and Key West, Florida, on the 12th and 19th, respectively, and the lowest, 29°.8, was observed at New Haven, Connecticut, on the 4th.

Temperature of water for February, 1884.

STATION.	Temperature at bottom.		Range.	Average depth, feet and inches.	Mean temperature of the air at station.
	Max.	Min.			
	°	°	°	ft. in.	°
Atlantic City, New Jersey	42.0	33.0	9.0	4 1	37.6
Alpena, Michigan*					
Augusta, Georgia	62.5	46.5	16.0	10 7	56.5
Baltimore, Maryland	41.0	33.5	7.5	9 6	42.2
Block Island, Rhode Island	39.0	30.8	8.2	8 3	35.0
Boston, Massachusetts	33.8	30.2	3.6	22 10	31.0
Buffalo, New York*					
Canby, Fort, Washington	48.3	33.4	14.9	17 0	38.2
Cedar Keys, Florida	74.8	46.1	28.7	11 5	63.4
Charleston, South Carolina	60.6	50.6	10.0	40 7	58.7
Chicago, Illinois*					
Chincoteague, Virginia	47.1	33.5	13.6	4 7	41.9
Cleveland, Ohio*					
Detroit, Michigan*					
Delaware Breakwater, Delaware	40.3	33.4	16.9	8 4	39.9
Duluth, Minnesota*					
Eastport, Maine	33.8	32.2	1.6	15 5	24.7
Escanaba, Michigan*					
Galveston, Texas	66.4	51.2	15.2	12 0	60.4
Grand Haven, Michigan‡	32.6	32.1	0.5	19 0	24.8
Indianola, Texas	68.6	51.3	17.3	8 2	60.2
Jacksonville, Florida	66.6	56.0	10.6	18 0	62.1
Key West, Florida	77.6	71.1	6.5	17 8	72.5
Mackinaw City, Michigan*					
Macon, Fort, North Carolina	62.0	49.3	12.7	2 8	52.9
Marquette, Michigan*					
Milwaukee, Wisconsin*					
Mobile, Alabama	59.5	47.2	12.3	15 4	57.3
New Haven, Connecticut	35.4	29.8	5.6	14 11	31.7
New London, Connecticut	37.2	34.5	2.7	12 6	33.6
New York City	35.0	31.5	3.5	16 0	35.1
Norfolk, Virginia	51.0	33.0	18.0	16 10	50.1
Pensacola, Florida	65.1	54.7	10.4	17 4	58.9
Portland, Maine	33.6	30.2	3.4	17 2	29.7
Portland, Oregon	45.4	33.2	12.2	50 7	36.0
Provincetown, Massachusetts	36.9	33.2	3.7	12 9	34.1
Sandusky, Ohio*					
Sandy Hook, New Jersey	39.8	35.7	4.1	1 7	35.8
San Francisco, California	52.3	45.0	7.3	39 6	50.0
Savannah, Georgia	63.8	49.3	14.5	11 2	58.3
Smithville, North Carolina	59.5	50.0	9.5	10 0	54.8
Toledo, Ohio*					
Wilmington, North Carolina	60.0	43.5	16.5	17 7	56.5

*Frozen entire month. ‡Observations interrupted by ice from 1st to 11th, 14th, 15th, 17th, 18th.

VERIFICATIONS.

INDICATIONS.

The detailed comparison of the tri-daily indications for February 1884, with the telegraphic reports for the succeeding twenty-four hours, shows the general average percentage of verifications to be 83.36 per cent. The percentages for the four elements are: weather, 89.40; direction of the wind, 78.48; temperature, 80.84; barometer, 84.53 per cent. By geographical districts they are: for New England, 88.29; middle Atlantic states, 87.13; south Atlantic states, 84.22; eastern Gulf states, 83.04; western Gulf states, 80.46; lower lake region, 86.48; upper lake region, 83.87; Ohio valley and Tennessee, 82.73; upper Mississippi valley, 82.01; Missouri valley, 74.93; north Pacific coast region, 78.12; middle Pacific coast region, 100.0; south Pacific coast region, 81.25. There were eighty-one omissions to predict, out of 3,504 or 2.31 per cent. Of the 3,423 predictions that have been made, one hundred and fifteen, or 3.36 per cent., are considered to have entirely failed; one hundred and thirty-four, or 3.91 per cent., were one-fourth verified; four hundred and twenty-six, or 12.45 per cent., were one-half verified; five hundred and sixty-four, or 16.48 per cent., were three-fourths verified; 2,184, or 63.80 per cent., were fully verified, so far as can be ascertained from the tri-daily reports.

Reports from the districts on the Pacific coast were discontinued on the 10th, consequently no predictions for those districts were made after that date.

CAUTIONARY SIGNALS.

During February, 1884, one hundred and seventy-six caution-